

for digital printing of color photographic paper elements. The present invention addresses a particular problem found, however, that such combination of dopants in silver halide grains can also result in latent image keeping instability problems, particularly for electronic printing laser exposures. Latent image keeping (LIK) instability refers to a highly undesirable property of changing photographic performance as a function of the time that elapses between exposure and processing. By specifically requiring that each of the two classes of dopants be used primarily in separate fractions of silver halide grains of an emulsion layer, Applicants have found that improved LIK performance is achieved relative to where both such dopants are employed primarily together in the same grains. Thus, the photographic emulsion layers of the elements of the present invention surprisingly enable the use of a desired combination of contrast and speed improving dopants with improved latent image keeping performance.

The Examiner has failed to establish a prima facie obviousness position, as there is no teaching or suggestion in any of the cited art to employ any specific dopants at different levels in different grain fractions of an emulsion layer in accordance with the invention for any reason, let alone to improve LIK performance. While Makuta et al discloses a variety of grain halide compositions (including but not limited to high chloride), forms, doping, and mixing possibilities for the emulsions of the photographic materials described therein, there simply is no teaching or suggestion to differentially dope fractions of grains of a high chloride {100} grain emulsion in accordance with the present invention.

fraction ★ The Examiner's reliance upon the reference to Newmiller et al in Makuta et al as a teaching that the high chloride grains of Makuta et al should be differentially doped and that it would have been obvious to perform such differential doping with dopants as described in McDugle et al and Keevert et al in accordance with the invention clearly is arrived at only with the impermissible use of hindsight. In

WMB ★ such regard, it is specifically noted that contrary to the Examiner's statements that the blended emulsions of Newmiller are only "preferred" to be directed to silver bromide or iodobromide grains, the invention described in Newmiller et al is in fact limited thereto (see, e.g., the Abstract; Summary of the Invention (col. 1, lines 58-60 and col. 2, lines 1-3); Detailed Description (col. 2, lines 9-11, col. 3, lines 24-27, etc.); and Claims (claim 1, lines 7-8)). Thus, the proposed combination of Makuta et al in view of and Newmiller et al would not be pertinent to the present claimed invention directed towards high chloride emulsions, and clearly is only suggested in hindsight based on Applicant's teachings. Further, even if the teachings of Newmiller et al were assumed to apply to high chloride emulsion which may be employed in Makuta et al, there is in any event clearly no support for the Examiner's "interpretation" of the term "different forms" as used at col.

ARM

64, line 14 in Makuta et al in relation to the teachings of Newmiller et al as encompassing anything other than the mixing of tabular grains of different aspect ratios (as opposed to mixing of differentially doped grains), as this is the only "example of mixing grains having different forms" actually disclosed in Newmiller et al.

While the basic combination of Makuta et al and Newmiller et al as proposed by the Examiner in relation to the present invention is clearly improper as discussed above, the Examiner has further failed to provide any reason as to why it would have been obvious to the artisan to further selectively dope different fractions of the silver halide grains of an emulsion layer with the distinct dopants as set forth in the present claims. Applicants do not contest the Examiner's statement that one of ordinary skill in the art would have been motivated to combine an additive that provided high contrast but also decreased the speed/sensitivity (such as those described in McDugle et al) with an additive that would increase the speed (such as those described in Keevert et al) to even out the sensitivity. This is in fact what has been done in co-doped silver halide grains of the prior art as described at page 7 of the present specification. This is also, however, what has lead to the LIK problem addressed by the present invention. What is not reasonably taught or suggested by the prior art is the use of such dopants selectively in separate fractions of the silver halide grains of an emulsion layer of a photographic element in accordance with the present invention. Clearly, the Examiner has improperly selected only portions of the cited art to be combined in an attempt to arrive at the presently claimed invention without providing any motivation to do so. It is only Applicant's teaching with respect to the improved LIK performance which provides the motivation to use the combination of dopants in selectively, differentially doped grain fractions in accordance with the present invention. Reconsideration of this rejection is accordingly respectfully requested.

A
by segments
in the
fractions

Claims 19-23 are rejected under 35 USC § 103(a) as being unpatentable over Makuta et al in view of Newmiller, McDugle et al, Keevert, Jr, and Research Disclosure 437013. The Examiner states that given the teachings of the RD that exposure doses of actinic radiation of at least 10⁻⁴ ergs/cm², typically in the range of 10⁻⁴ to 10⁻³ ergs/cm² for exposure times of up to 100 microseconds, or possibly up to 10 microseconds, or even 0.5 microseconds (section XIV) are conventional in the art, and that the Makuta et al reference teaches similar exposure times, it would have been obvious to one of ordinary skill in the art to prepare the material of Makuta et al in view of Newmiller, McDugle et al, and Keevert, Jr. et al using the conventional exposure dose for the

exposure method and time of Makuta et al with reasonable expectation for achieving a material have increased storage stability. This rejection is respectfully traversed.

As discussed above, the presently claimed photographic elements are not obvious over the combination of Makuta et al in view of Newmiller, McDugle et al, and Keevert, Jr. et al. Thus, electronic printing as disclosed by Research Disclosure of "the material of Makuta et al in view of Newmiller, McDugle et al, Keevert, Jr. et al" as proposed by the Examiner would not result in the presently claimed invention. Reconsideration of this rejection is accordingly respectfully requested.

In view of the foregoing remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



Attorney for Applicants
Registration No. 33,564

Andrew J. Anderson/vjr
Rochester, NY 14650
Telephone: (585) 722-9662
Facsimile: (585) 477-1148